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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/749,052 | 12/30/2003 | Ian Graham Bolton | 1801270.00138US1 | 7395 |
| 23483 7590 10/02/2007 WILMER CUTLER PICKERING HALE AND DORR LLP 60 STATE STREET BOSTON, MA 02109 | | | EXAMINER KISS, ERIC B | |
| | | | ART UNIT 2192 | PAPER NUMBER |
| | | | NOTIFICATION DATE 10/02/2007 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/749,052

Applicant(s)

BOLTON ET AL.

Examiner

Eric B. Kiss

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20031230.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-45 have been examined.

Information Disclosure Statement

2. The information disclosure statement filed December 30, 2003, fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the cited document is not referred to by date or place of publication. However, a document believed to be equivalent to the applicant-cited document is cited in the attached Notice of References Cited, form PTO-892.

Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3-15, 18-30, and 33-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 18, and 33 each recite, "the child nodes of identified partially dead register definitions." This meaning of this limitation is not clear from the context of the claims, because the claims do not previously introduce the concept of parent/child nodes and child nodes do not

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appear to be inherent features of register definitions. Accordingly, this limitation renders claims 3-15, 18-30, and 33-45 indefinite.

Further, claim 40 recites the limitation "The combination of claim 3" in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 40 should presumably depend from claim 36 instead of claim 3.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 31-45 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 31-45 recite, "In combination: a target processor; and translator code" It is unclear from this recitation that the recited combination necessarily makes up a statutory machine as there is no explicit functional and structural relationship between the "code" elements and the processor such that the functionality of the code can be realized. For example, the code is not recited as being stored on any computer-readable medium directly accessible by the target processor so that the target processor can read and execute the code to carry out the recited steps.

7. To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. §101 (non-statutory) above are further rejected as set forth below in anticipation of Applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, 16, 17, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Alfred v. Aho, et al., “Compilers: Principles, Techniques, and Tools,” 1988, Addison-Wesley (hereinafter *Aho1988*).

Regarding claim 1, *Aho1988* discloses a method of translating a plurality of basic blocks of program code, comprising:

decoding a plurality of basic blocks of program code (*see, e.g., Aho1988* at p. 591, Fig. 10.5, illustrating the basic blocks B1 through B6 of the code fragment on p. 588, Fig. 10.2));

generating an intermediate representation for each of said basic blocks of program code (*see, e.g., Aho1988* at pp. 589-590, describing intermediate code generation, and illustrating the intermediate code, Fig. 10.4, corresponding to the code fragment in Fig. 10.2));

performing a partial dead code elimination optimization on said intermediate representation to generate an optimized intermediate representation (*see, e.g., Aho1988* at p. 595 (describing dead-code elimination transforming the intermediate code block (10.1) by removing an assignment instruction));

generating target code from said optimized intermediate representation (*see, e.g., Aho1988* at p. 589 (The code generator . . . produces the target program from the transformed intermediate code)).

Regarding claim 2, *Aho1988* further discloses the partial dead code elimination optimization is performed on basic blocks ending in non-computed branches or computed jumps (*see, e.g., Aho1988* at p. 595 (describing dead code elimination on block B5 (a non-computer branch))).

Regarding claims 16, 17, 31, and 32, these are computer-readable media and (presumably) computer system versions of the claimed methods discussed above (claims 1 and 2). The use of such computer systems and media (*e.g., memory*) is inherent in realizing the functionality disclosed by *Aho1988* (*see, e.g., Aho1988* at p. 585 (distinguishing the operations of a compiler from writing code by hand)), and all other limitations have been addressed as set forth above.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric B. Kiss whose telephone number is (571) 272-3699. The Examiner can normally be reached on Tue. - Fri., 7:00 am - 4:30 pm. The Examiner can also be reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tuan Dam, can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature should be directed to the TC 2100 Group receptionist:
571-272-2100.



Eric B. Kiss
September 27, 2007